

What is claimed is:

1. A process for growing *Thraustochytrium*, *Schizochytrium*, and mixtures thereof, comprising growing said *Thraustochytrium*, *Schizochytrium*, and mixtures thereof, in a culture medium containing a non-chloride sodium salt.

2. The process of Claim 1, wherein said sodium salt comprises sodium sulfate.

3. The process of Claim 2, wherein the concentration of said sodium sulfate, expressed as grams of sodium per liter of culture medium, is greater than about 1.0.

4. The process of Claim 2, wherein the concentration of said sodium sulfate, expressed as grams of sodium per liter of culture medium, is between about 1.0 and about 50.0.

5. The process of Claim 2, wherein the concentration of said sodium sulfate, expressed as grams of sodium per liter of culture medium, is between about 2.0 and about 25.0.

6. The process of Claim 1, wherein said *Thraustochytrium*, *Schizochytrium*, and mixtures thereof, have all of the identifying characteristics of an organism selected from the group consisting of ATCC Nos. 20888 and 5 20889, and mutants thereof, wherein said mutants have an omega-3 HUFA content of at least about 0.5% dry weight.

7. The process of Claim 1, wherein of said *Thraustochytrium*, *Schizochytrium*, and mixtures thereof, have a sterol content of at least about 0.1% afdw.

8. The process of Claim 7, wherein *Thraustochytrium*, *Schizochytrium*, and mixtures thereof, have a cholesterol content of at least about 15% of the total sterol content.

9. The process of Claim 1, wherein said *Thraustochytrium*, *Schizochytrium*, and mixtures thereof, have a cell aggregate size less than about 150 microns in diameter.

10. The process of Claim 1, wherein said *Thraustochytrium*, *Schizochytrium*, and mixtures thereof, have a cell aggregate size less than about 100 microns in diameter.

11. The process of Claim 1, wherein said *Thraustochytrium*, *Schizochytrium*, and mixtures thereof, have a cell aggregate size less than about 50 microns in diameter.

12. The process of Claim 1, wherein said culture medium has a chloride concentration of less than about 3 grams of chloride per liter of culture medium.

13. The process of Claim 1, wherein said culture medium
5 has a chloride concentration of less than about 250 milligrams of chloride per liter of culture medium.

SND B1

14. A microfloral biomass comprising *Thraustochytrium*, *Schizochytrium*, and mixtures thereof, wherein said *Thraustochytrium*, *Schizochytrium*, and mixtures thereof have a cell aggregate size less than about 150 microns.

C

C

Sub A2

15. The microfloral biomass of Claim 14, wherein said *Thraustochytrium*, *Schizochytrium*, and mixtures thereof have non-chloride sodium salt is been grown in a culture medium containing sodium sulfate.

16. The microfloral biomass of Claim 14, wherein said *Thraustochytrium*, *Schizochytrium*, and mixtures thereof, have all of the identifying characteristics of an organism selected from the group consisting of ATCC Nos. 20888 and 5 20889, and mutants thereof, wherein said mutants have an omega-3 HUFA content of at least about 0.5% dwt.

17. The microfloral biomass of Claim 14, wherein of said *Thraustochytrium*, *Schizochytrium*, and mixtures thereof have a sterol content of at least about 0.1% afdw.

SND B3

18. The microfloral biomass of Claim 17, wherein *Thraustochytrium* and *Schizochytrium* have a cholesterol content of at least about 15% of the total sterol content.

19. The microfloral biomass of Claim 14, wherein said *Thraustochytrium*, *Schizochytrium*, and mixtures thereof have a cell aggregate size less than about 100 microns.

20. The microfloral biomass of Claim 14, wherein said *Thraustochytrium*, *Schizochytrium*, and mixtures thereof have a cell aggregate size less than about 50 microns.

21. A method to produce shrimp, comprising feeding microflora selected from the group consisting of *Thraustochytrium*, *Schizochytrium*, and mixtures thereof to larval shrimp, said microflora having a cell aggregate size 5 less than about 150 microns.

22. The method of Claim 21, wherein said *Thraustochytrium*, *Schizochytrium*, and mixtures thereof have been grown in a culture medium containing sodium sulfate.

23. The method of Claim 21, wherein said *Thraustochytrium*, *Schizochytrium*, and mixtures thereof, have all of the identifying characteristics of an organism selected from the group consisting of ATCC Nos. 20888 and 5 20889, and mutants thereof, wherein said mutants have an omega-3 HUFA content of at least about 0.5% dry weight.

24. The method of Claim 21, wherein said *Thraustochytrium* and *Schizochytrium* have a sterol content of at least about 0.1% afdw.

25. The method of Claim 24, wherein said *Thraustochytrium* and *Schizochytrium* have a cholesterol content of at least about 15% of the total sterol content.

26. The method of Claim 21, wherein said *Thraustochytrium*, *Schizochytrium*, and mixtures thereof have a cell aggregate size less than about 100 microns.

27. The method of Claim 21, wherein said *Thraustochytrium*, *Schizochytrium*, and mixtures thereof have a cell aggregate size less than about 50 microns.

28. A food product comprising:
- microflora selected from the group consisting of *Thraustochytrium*, *Schizochytrium*, and mixtures thereof; and
 - a material selected from the group consisting of flaxseed, rapeseed, soybean, avocado meal, and mixtures thereof.
29. The food product of claim 28, wherein said composition comprises between about 5% and about 95% by weight of said microflora.
30. The food product of Claim 28, wherein said composition comprises between about 5% and about 95% by weight of flaxseed.
31. The food product of Claim 28, wherein said composition comprises between about 5% and about 95% by weight of rapeseed.
32. The food product of Claim 28, wherein said composition comprises between about 5% and about 95% by weight of soybean.
33. The food product of Claim 28, wherein said composition comprises between about 5% and about 95% by weight of avocado meal.
34. The food product of Claim 28, wherein said food product is an extruded product.

35. A method of aquaculture, comprising feeding microflora selected from the group consisting of *Thraustochytrium*, *Schizochytrium*, and mixtures thereof to organisms selected from the group consisting of larval shrimp, brine shrimp, rotifers and mollusks, said microflora having a cell aggregate size less than about 150 microns.

5 36. The method of Claim 35, wherein said *Thraustochytrium*, *Schizochytrium*, and mixtures thereof have been grown in a culture medium containing sodium sulfate.

37. The method of Claim 35, wherein said *Thraustochytrium*, *Schizochytrium*, and mixtures thereof, have all of the identifying characteristics of an organism selected from the group consisting of ATCC Nos. 20888 and 5 20889, and mutants thereof, wherein said mutants have an omega-3 HUFA content of at least about 0.5% dry weight.